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09/634,053

08/08/2000

Timothy M. Schmidl

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02/08/2005

Ronald O Neerings
Texas Instruments Incorporated
P O Box 655474 M/S 3999
Dallas, TX 75265

EXAMINER

AHN, SAM K

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/634,053

Applicant(s)

SCHMIDL ET AL.

Examiner

Sam K. Ahn

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment, received on 10/04/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-17 and 19-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 7-17 and 19-29 is/are allowed.
- 6) ☒ Claim(s) 30, 34 and 38 is/are rejected.
- 7) ☒ Claim(s) 31-33, 35-37 and 39-41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 30-41 are objected to because of the following informalities:

In claim 30, line 9, delete "sending said one" and insert "sending one".

In claim 34, line 8, delete "sending said one" and insert "sending one".

In claim 38, line 9, delete "sending said one" and insert "sending one".

Claims 31-33,35-37 and 39-41 directly or indirectly depend on claim 30,34 or 38.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe USP 5,459,760 (cited previously) in view of Petit USP 5,491,727 (Petit).

Regarding claim 30, Watanabe teaches a method of controlling wireless communications, comprising: determining a first frequency hopping pattern (see Fig.5); sending a first transmission on a first frequency (f1) of the first frequency hopping pattern (f1~f4) from a first device (base station) to a second device (mobile station); receiving the first transmission and providing communication

quality measurements at the second device (mobile station receiving the transmission sent by the base station and providing communication quality measurements by measuring the power level of the signal, note col.2, lines 55-60) and sending one of the plurality of nearest future transmissions from the second device to the first device on the first frequency (f1) in response to the communication quality measurements (note col.5, lines 9-15).

And although Watanabe does teach sending one of the plurality of nearest future transmissions from the second device to the first device on the first frequency, Watanabe does not explicitly teach the step of selecting a channel coding rate in response to the communication quality measurements.

Petit teaches wherein the communication quality measurements includes selecting the power level and coding rate (see 28 in Fig.1) and apply the selection to be transmitted back to the source system (27, note col.4, lines 8-12 and col.16, lines 10-17). Therefore, it would have been obvious to one skilled in the art at the time of the invention to not only include the power measurements as the communication quality measurements in Watanabe's system, but to further include other characteristics, such as the coding rate for the purpose of further improving the quality of the future transmissions to be transmitted by the base station.

3. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe USP 5,459,760 (cited previously) in view of Hioe et al. USP 6,341,145 B1 (Hioe).

Regarding claim 34, Watanabe teaches a method of controlling wireless communications, comprising: determining a first frequency hopping pattern (see Fig.5); sending a first transmission on a first frequency (f_1) of the first frequency hopping pattern ($f_1 \sim f_4$) from a first device (base station) to a second device (mobile station); receiving the first transmission and providing communication quality measurements at the second device (mobile station receiving the transmission sent by the base station and providing communication quality measurements by measuring the power level of the signal, note col.2, lines 55-60) and sending one of the plurality of nearest future transmissions from the second device to the first device on the first frequency (f_1) in response to the communication quality measurements (note col.5, lines 9-15).

And although Watanabe does teach sending one of the plurality of nearest future transmissions from the second device to the first device on the first frequency, Watanabe does not explicitly teach the step of selecting a packet length in response to the communication quality measurements.

Hioe teaches wherein the packet length is varied depending the communication quality measurements (note col.9, line 42-51). Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify Watanabe's system to include the packet length as the communication quality measurements wherein the packet length is determined by the quality for the purpose of improving the data rate wherein the system maximizes data transmission by measuring the condition of the communication quality measurements.

4. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe USP 5,459,760 (cited previously) in view of Hiramatsu USP 6,512,917 B1 (Hiramatsu).

Regarding claim 38, Watanabe teaches a method of controlling wireless communications, comprising: determining a first frequency hopping pattern (see Fig.5); sending a first transmission on a first frequency (f_1) of the first frequency hopping pattern ($f_1 \sim f_4$) from a first device (base station) to a second device (mobile station); receiving the first transmission and providing communication quality measurements at the second device (mobile station receiving the transmission sent by the base station and providing communication quality measurements by measuring the power level of the signal, note col.2, lines 55-60) and sending one of the plurality of nearest future transmissions from the second device to the first device on the first frequency (f_1) in response to the communication quality measurements (note col.5, lines 9-15).

And although Watanabe does teach sending one of the plurality of nearest future transmissions from the second device to the first device on the first frequency, Watanabe does not explicitly teach the step of selecting a plurality of weighting coefficients in response to the communication quality measurements, and transmitting over a plurality of antennas.

Hiramatsu teaches plurality of antennas (101 in Fig.2) and further teaches wherein the communication quality measurements include selecting the plurality of weighting coefficients (see 110 in Fig.2 and note col.4, lines 10-18, for transmitting power control) and transmitting over a plurality of antennas to the source system (note col.4, lines 8-12 and col.16, lines 20-30). Therefore, it would have been obvious to one skilled in the art at the time of the invention to couple plurality of antennas for the purpose of applying an antenna array to the system, thus having a multipath propagation path, and further, it also would have been obvious to one skilled in the art at the time of the invention to perform the power measurements by selecting the plurality of weighting coefficients as taught by Hiramatsu in Watanabe's system as the communication quality measurements for the purpose of effectively controlling each of the plurality path of the transmitting paths to the antenna array.

Allowable Subject Matter

5. Claims 1-5,7-17 and 19-29 are allowed.
6. Claims 31-33,35-37 and 39-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and overcome the claim objections.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam K. Ahn
2/3/05

TEMESGHEN GHEBREHRETINSAE
PRIMARY EXAMINER

2/7/05